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AUTHOR Trimble, Susan B.; Peterson, Gary W.

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ABSTRACT

The growth of educational teams in collaborative reform initiatives spurs a need for team assessments to assist in promoting functional team environments, productive team work, and member satisfaction. This study applied a multitrait-multimethod framework (D. Campbell and D. Fiske, 1959) to assess team functioning and team leadership. Four case studies of four middle level interdisciplinary teacher teams illuminate how the multitrait-multimethod framework can be used to assess and then prescribe interventions to enhance team functioning. This paper presents two of four cases. A traits-by-methods (4 x 4) matrix provided a conceptual framework for a comprehensive assessment of each case. Traits were task, relationships, leadership, and motivation/energy. Methods were story-writing, questionnaires, direct observation of team meetings, and leader focus groups using metaphors. The results substantiate that the multitrait-multimethod framework provides convergent, concrete, and useful findings to generate recommendations for team maintenance and improvement. (Contains four tables and seven references.) (Author/SLD)

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A Multitrait-Multimethod Framework To Assess Team Leadership and Team Functioning

Susan B. Trimble
Georgia Southern University

Gary W. Peterson
Florida State University

Abstract

The growth of educational teams in collaborative reform initiatives spurs a need for team assessments to assist in promoting functional team environments, productive team work, and member satisfaction. This study applied a multitrait,-multimethod framework (Campbell & Fiske, 1959) to assess team functioning and team leadership. Four cases studies of four middle level interdisciplinary teacher teams illuminated how the multitrait-multimethod framework can be used to assess and then prescribe interventions to enhance team functioning. For purposes of this paper and presentation, two of the four cases are presented. A traits by methods (4 x 4) matrix provided a conceptual framework for a comprehensive assessment of each case. Traits were task, relationships, leadership, and motivation energy. Methods were story-writing, questionnaires, direct observation of team meetings, and leader focus groups using metaphors. The results substantiated that the multitrait-multimethod framework provided convergent, concrete, and useful findings to generate recommendations for team maintenance and or improvement.

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Introduction

The expansion of group-orientated practices in organizational decision-making is evident in industry and education. In delivering instruction, the focus of educational practices is shifting from teachers working in isolation to teachers planning instruction together as interdisciplinary team members making connections among their subject areas. Specifically at the middle level, where the vehicle for teacher collaboration is interdisciplinary teams of teachers and students, the number of schools using interdisciplinary has increased from 33% in 1989 (Alexander & McEwin, 1989) to 42% in 1990 (Epstein & Mac Iver, 1990) to 57% in 1993 (Valentine, Clark, Irvin, Keefe, & Melton, 1993).

The increase in the number of educational teams, however, is not matched by adequate teacher training in collaborative group processes to promote team potential, team maintenance, and outputs (Mac Iver & Epstein, 1990; Trimble & Irvin, 1996). Nor do the available team assessment instrument address the complexity of factors impacting team functioning. Without the use of a broad range of measures to assess the complexity of team work on which to develop recommendations for staff development, the potential of teams in many cases remains untapped. Assessing how a team functions, therefore, provides an initial step to evaluate and improve team performance.

The Proposed Multitrait-Multimethod Framework

The present study addresses the need for a comprehensive assessment to cut through natural individual and team defenses and to provide information in concrete and comprehensive terms useful to team members. The proposed method of team assessment is a multitrait-multimethod framework, similar to that proposed by Campbell and Fiske (1959) to evaluate the construct validity of psychometric measures. A description of the proposed framework of assessment with 4 levels of traits and 4 levels of methods follows:

The Four Traits. The four traits or dimensions of team functioning were defined as:

(a) *Task*: the focused activities of the group to produce an outcome;
(b) *Relationships*: membership concerns, roles, status, and affiliations;
(c) *Leadership*: a set of behaviors that help a group to move towards a particular objective;
(d) *Motivation/energy*: the activity level used for group productivity or group maintenance

The Four Methods. Four assessment methods included the following:

(a) *Story-writing* for projections of group-related mental schema,
(b) *Questionnaires* to target comprehensive team functioning,
(c) *Team meeting observations* to map communication patterns, and
(d) *Focus groups* to collect metaphors to reveal leader symbolic representation.

Research Objectives

The purpose of the study was to demonstrate the use of the multitrait-multimethod framework to assess team functioning and to prescribe interventions to enhance team functioning. This study explored four cases studies, two of which are presented in this paper. The study sought to demonstrate the application of the proposed method to examine team process only. At this time, the relationship between process and product was not investigated. It was proposed

that the analysis of the results could be used to prescribe ways to improve team performance and to act as a stimulus for further research.

Participants

The sample consisted of 4 interdisciplinary teacher teams (4 teachers each) in a southeastern United States middle school (Grades 6-8). Both the teams and the school were in the first year of operation, although some of the teachers had worked together in a former school and had chosen to transfer to the new school. The middle school was structured by 18 interdisciplinary teams of teachers who taught and guided the same group of students in grades 6 - 8. The present case studies were two 7th grade teams and two 8th grade teams. Team leaders consisted of 3 white females and 1 black female. Team teachers consisted of 11 female white teachers and 1 white male teacher, with years of teaching experience ranging from 3 months to 25 years.

Data Collection

With the support and interest of the principal, the proposed method of team assessment was administered to all teams in the spring of 1997. The teachers, assembled by grade levels during their planning time, individually wrote stories to the same three pictures (method 1) and individually completed the questionnaire on aspects of their teams functioning (method 2). The collected stories and questionnaires were grouped by teams and checked for full participation by all team members. four-member teams with completed and full participation of members were chosen for team meeting observations (method 3). In the following weeks, team meetings of four teams were observed and scripted, with the scripted notes set aside by the researchers for analysis after the meetings of the team leader focus groups (method 4). Team leaders of all the teams in the school were then assembled by grade level for a grade level team leader focus group. The team leaders completed the team leader response sheet and then spoke about their feelings and thoughts about being a team leader. To maintain the highest possible degree of unbiased data collection, no analysis of the content occurred following each phase of data collection.

Coding of Data

The authors coded the stories written to pictures (method 1), scored the questionnaires for variance in the answers and convergent of high and low scores (method 2), coded the team meetings for communication patterns (method 3), and recorded the team leader focus group for overall themes of metaphors chosen by team leaders to depict their team and their leadership.

Data Analysis

The data were recorded on a 4 x 4 matrix of trait by method for each team. Inquiry questions for each method by trait (see Table 2) pinpointed aspects of team functioning and leadership that were unique to each method and provided direction for recording data in the matrix. Data were related using operationalized constructs of tasks, member concerns, leadership, and energy/motivation to find points of agreements through repeated findings and evidence of novel traits or behaviors attributable to the method or the team. Issues of validity were addressed in a manner similar to the form of the multitrait, multimethod work of Campbell & Fiske (1959) where convergent and discriminant validity were established through a correlation matrix.

Validation in the Field

To validate the findings for each team, at the end of the school year, the principal and two assistant principals who had supervised the four teams for the previous nine months at the school first recorded in short phrases their impressions of each of the four teams. The researchers compared these comments of the three principals to their findings for each team and used the principals' notations to stimulate discussion with the principals about the findings by the multitrait-multimethod framework. The verifications of the principal and two assistants confirmed reliability of the summative assessment for each team.

Findings

The four methods provided the following assessment across four dimensions of team behaviors: task, member concerns, leadership, and energy/motivation. For purposes of this paper, findings and recommendations of two out of the four cases are provided here to illustrate a high and low performing group.

Case #1: The Bees. (see Table 3). This team demonstrated a balance of task and relationship, matched by an appropriate delegating type leadership. Discussions ended in closure, with tasks completed and roles defined. The metaphor choice of the team leader was the team as "bees." The practical approach to work emerged with the metaphor choice of the team vehicle as "the station wagon." The choice of the fairy tale line "They lived happily ever after" mirrored the absence of subgroups among the five team members.

Case #2: A Herd of Elephants. (see Table 4). This team demonstrated high relationship behaviors and care for students, with little closure and few decisions, and a coaching type of leadership. The metaphor choice of the team leader was the team as "a herd of elephants." The nurturing and helping approach to the work of the team emerged with the metaphor choice of the team vehicle and "a big van." The choice of the fairy tale line "a princess cutting through a thicket" mirrored the difficulties faced by the team that year.

Recommendations

Case #1: With the high level of team functioning that enables member satisfaction and team unity, this team can establish team goals to provide direction for team efforts. Leadership style is appropriate for the level of team maturity, although a rotation of the formal leadership role would enable other team members to handle the coordination of the team's business.

Case #2: With this team at the initial stage of team development and a highly developed sense of caring and nurturing for students, this team would benefit from a more directive type of leadership to clarify instructional tasks, establish roles, and balance the task and relationship aspects of team functioning. A focus on task through establishing team goals would aid the team to reach increased levels of instructional decision-making.

Implications of the Findings/Usefulness of the Method

For practitioners at the team level: The assessment framework generated data from a variety of perspectives and on two levels of findings: within teams and between teams. Viewed as non-threatening, the techniques can generate involvement by the participants and stakeholders, being well received by participants, creating stimuli for team learning and team self-analysis. The

team members can use the findings for self-understanding, assessing team needs, forming a sense of direction, and developing team goals for improving team performance.

For researchers in the area of team research: This method provides greater understanding of the input variables of team member and team leader mental schema and the process variables of team communication patterns, member roles, and scope and extent of team functioning. Researchers interested in creating and testing theory will find the method useful in seeking to establish relationships amidst the between-team similarities and seeing the discrepancies .

For researchers in the area of methodology: This multimethods framework fits the call for various data collection points to address the complexity of teamwork. The central point of concern is not the individual methods of data collection but the analysis of copious amount of data. Researchers using this method become, using Fieldings & Fieldings (1986) term, *methodologically eclectic* within the "comparative frame of reference."

Conclusion

The study reveals the following about teams: task and/or affiliation focus; decision-making format; leader-group and inter-group relationships; member schema related to cognition of roles, leadership, group behaviors, and energy. The study reveals the following about the four methods: they are useful for research and practice because they give a comprehensive overview of team functioning and leadership contributions that is not obtainable by the use of one or two methods. When combined with team member involvement with the data analysis and conclusions, the findings can be used by team members to form team and personal goals. Future work to expand understanding of team work may include additional factors as outcomes, linkages with the environment, and student and administration perceptions.

References

Alexander, W. M., & McEwin, C. K. (1989). *Schools in the middle: Status and progress*. Columbus, OH: National Middle School Association.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validity by the multitrait-multimethod matrix. *Psychological Bulletin, 56*(2), 81-105.

Epstein, J. L., & Mac Iver, D. J. (1990). *Education in the middle grades: Overview of national practices and trends*. Columbus, OH: National Middle School Association.

Fielding, N. G., & Fielding, J. L. (1986). *Linking data*. Beverly Hills: Sage Publications.

Mac Iver, D. J., & Epstein, J. (1990). *Responsive education in the middle grades: Teacher teams, advisory groups, remedial instruction, school transition programs, and report card entries*. (Report No. 46). Baltimore, MD: Center for Research on Elementary and Middle Schools. (ERIC Reproduction Service No. ED 330 083).

Trimble, S. , and Irvin, J. L. (1996). Emerging from the mists: The field of teaming. *Middle School Journal, 27*(5), 53-56.

Valentine, J. W., Clark, D., Irvin, J., Keefe, J., & Melton, G. (1993). *Leadership in middle level education: Volume I, A national survey of middle level leaders and schools*. Reston, VA: National Association of Secondary School Principals.

Table 1: Multitrait-multimethod Team Assessment showing type of method, coding, and information for each method.

Method of Data Collection	Type of Coding	Type of Information
Story-writing	Words and reoccurring themes	Implicit cognition, incidents of affiliation; identification of task, goal, team leaders and roles; conflict and its resolution, and task orientation
Questionnaires	Similarities & differences in item responses; variances in responses	Perceptions of frequency of aspects of team functioning; cohesion, tasks
Direct observation of communication patterns	Communication patterns, encoded	Roles & member status; group interactions; decision-making
Focus groups	Leader metaphors, reoccurring themes	Leader symbolic representations of team movement & roles

Table 2 4 x 4 Matrix (Traits by Methods) of Inquiry Questions

	Methods				
	Story-writing	**Questionnaires**	**Direct Observation**	**Leader focus Group**	**Summary ***
Task Behaviors on task group work policies procedures outcomes focused to produce an outcome	What were characters doing in the story? What goals, if any were identified? Was a task identified? Was there an outcome: If so, how did it happen?	Impact on classroom frequency of decisions implemented; bringing closure; # of thematic units; parent conferences; discussing team goals	Who focused on task? How many decisions were made? What type of task was discussed? Where was the emphasis, process or outcome?	Best of teaming worst of teaming task as leader	*The basis of Recommendations
Relationship Behaviors roles, communication group process concerns roles affiliations subgroups	Were the people working together on a task? What types of relationships appeared? Were roles identified? What was the reason for being together?	What subgroups emerges? Valuing differences? Speak openly? Trust each other; enjoy each other; in agreement on ----; shared beliefs?	Who talked & how often? Types of comments; who volunteered? Who suggested? Who told stories? Who was passive or dominant? Amount of variety?	Team leader's metaphor for team	
Leadership/followershi Behaviors style behaviors focus emphasis	Was a leader identified? How did the leader behave? What did the leader do? How did group members react to the leader? How was the leader described?		What types of comments did the leader make? Who was in charge? Who influenced? Who handled details?	Self-report of leader's role; hardest part; leader's role	
Energy/Motivation/ Effort. Group energy devoted to task=work groups; devoted to internal process =process groups; to resolve conflict of group vs. external forces = combative (Berne, 42)	Was there dynamic or passive activity? Were emotions positive or negative? Was there a sense of importance? of conflict and possible resolution? of an outcome, positive or negative?		Focused attention? If so, on what? Amount and intensity of effort. Controlled?	What did the metaphors say about spend/ movement of the team? Fairy tale line?	

Table 3 Matrix of Traits by Methods: Findings by Individual Case #1

Case1-

	Story-writing	Questionnaires	Direct Observation of Team Meetings	Leader Focus Groups/Metaphors	Summary
Task	*task considered important *high concern and pride *outcomes were stated	*agreement on "we make decisions with everyone's input" *team resulted in classroom changes in 5 areas	*4 decisions made	*Self-Report of leader's task*: leader as a guide to develop a common purpose, develop personal friendship (ck), and make sure things get done: keeping records, take minutes	*task focused *decisions made *things get done *team makes an impact on classroom
Relationship	*group was important *almost no conflict *individuals have roles *people were identified as a team	*all trust each other *all enjoy being on team *high agreement on frequency of team behaviors *no subgroups *success due to getting along & all contribute to decisions	*frequency of talking evening distributed amongst members *roles appeared as the task-focuser (leader), the questioner, the suggester, the realist	*Team Metaphor*: to work as one *Best part of teaming*: to support each other, equal partners, sharing and working together.	*Shared perceptions *cohesion, no subgroup *individual roles & expression *each member contributes
Leadership	*leaders were identified			*Worst part of leaders job*: losing notes, record keeping *Hardest part of leader's job*: "emphasizing things the administration wants us to do that my team doesn't agree with"	*recognition of leader *leader as manager and task-director *leader has sense of responsibility
Energy/ Motivation/ Effort	*positive mood *positive outcomes stated		*established routines & way of taking care of business *calm, no threats to identify *feeling of maturity *orderly use of time	*Movement Metaphor* *Vehicle*: Station Wagon "to get things packed up and take care of business" *Fairy tale line*: live happily ever after	*feeling of importance *positive energy focused on task *orderly use of energy *solid & sustained

Table 4 Matrix of Traits by Methods by Individual Case #2

Case2 -

	Story-writing	Questionnaires	Direct Observation of Team Meetings	Leader Focus Groups	Summary
Task	*no decisions made *being at a standstil & no reason given *brainstorming but no decision made	**high frequency & agreement* on parent conferences, valuing differences, each member participates, and decisions are implemented *low frequency*: team represented on school councils, business partnerships, innovative teaching, say in hiring; never do thematic units; few to occasional changes in classroom	*little amount of closure *few decisions *"I am here to participate" *lots of suggestions	*Self-report of leader's task:* leader is facilitator, nurtures, feels heavy load to move (ck if she wrote these words); "enabling, doing the paperwork so teachers can teach	*little unity around task purpose & closure &disagreement on amount of discussing goals *all process *few outcomes in classroom or meetings
Relationship	*identification of teams with leaders *greater affiliation than task focus *picture #3 (a meeting) people are passive and nothing gets done caused by: (1) people divided with opinions resulting in 3 solutions (2) time pressures *no roles given	**medium frequency*: most contribute, bring closure, good use of time *Disagreement on*: discussing team goals *no subgroups *team is a success because "we get along, but not friends, and our personalities clash" *3 of 4 people high trust & enjoy and willing to cooperate; other person feels no trust, not same beliefs, no enjoy, seldom "all of us are willing to cooperate"	*fast-moving talk among members *lively, sense of humor *lots of stories about students *same amount of talking between two members with same amount of questioning and suggesting *one member (3 months on team, 1st year teacher) is bystander.	*Team Metaphor:* Herd of elephants *Best part of Teaming:* "we all do our parts and try to help each other"\ *Best thing our team has done*: to help several students make life changing differences in their school lives	*cohesive of group more important than task * one person is a recent addition to team and verbally participates little *one person feels unlike the others *contradictions in the findings related to relationships: the team talks unity but divisions are apparent *no roles *high participation from 3 of 4 members

Table 4 (cont.): Matrix of Traits by Methods by Individual Case #2

	Story-writing	Questionnaires	Direct Observation of Team Meetings	Leader Focus Groups	Summary
Leadership	*no leadership behaviors described *no reference made to leadership		*leader talks most, enables, clarifies, facilitates, has most task emphasis	*Worst thing our team has done: to try to handle all discipline ourselves for too long* *Hardest Part of Leader's Job: "being the sounding board and listening to everyone's gripes and then not getting angry or depressed"* *Part I played:* to make sure students got the help, sp. Services, and support they needed; I keep trying to find new ways to keep our students going	*leader facilitates & nurtures *but lack of directions and bringing discussion to closure. Leader focuses on helping students and helping teachers
Energy/ Motivation/ Effort	*more positive feelings expressed with picture #1 (award ceremony) and #2 (outing with snake demonstration)--both of which show people standing and watching		*liveliness but no resolution or decisions made on pts of discussion *underlying heaviness *blocked energy *lack of focus and closure	*Movement Metaphor Vehicle:* Big van, we'd always be doing something and need the room *Fairy Tale Line:* Princess cutting through a thicket, "we've had several terrible crisis and we've made it through"	*heaviness *lack of moving